

**From:** O'Meilia, Chris  
**To:** Cummings, Jonathan W  
**Cc:** Allan, Nathan; Nichols, Clay; Burgess, Kevin; Smith, David R; Converse, Sarah; Clint Moore; Collins, Ken; Hill, Debra M; Ellwood, Leslie; Davis, Jennifer L; Echo-Hawk, Patricia  
**Subject:** Fwd: Request for lesser prairie-chicken maximum entropy geospatial data and documentation  
**Date:** Friday, September 11, 2015 3:12:45 PM  
**Importance:** High

Jonathan,

See below for information related to the under development paper on LEPC maximum entropy model, with the lead on the work being Catherine Jarnevic. Please feel free to download the data and add these information sources to our ongoing data table efforts. Also see the WAFWA provided link to the final MaxEnt output.

I'm still working through attempts to access other data we discussed on the last call.

Let me know if you have any questions or problems accessing the information. -Chris

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Chris O'Meilia - Fish and Wildlife Biologist  
U.S. Fish and Wildlife Service - Region 6  
Kansas Ecological Services Field Office  
2609 Anderson Avenue  
Manhattan, Kansas 66502  
Office - 785.539.3474 x104

**Submit all technical assistance  
and consultation requests to:**  
[kansases@fws.gov](mailto:kansases@fws.gov)

----- Forwarded message -----

From: Jarnevic, Catherine <[jarnevic@c@usgs.gov](mailto:jarnevic@c@usgs.gov)>  
Date: Thu, Sep 10, 2015 at 9:28 AM  
Subject: Re: Request for lesser prairie-chicken maximum entropy geospatial data and documentation  
To: "O'Meilia, Chris" <[chris\\_omeilia@fws.gov](mailto:chris_omeilia@fws.gov)>

Hi Chris,

Sorry for taking so long in getting back to you. I was unexpectedly out a fair amount with sick kids, and tracking all this down has taken more time than expected.

We were given transmission line data from Platts, and it came with a nondisclosure agreement. I believe it was provided to the working group by WGA, but I was not involved in any of that and do not have details.

Mike Houts provided the CRP layer to me. I'm not sure if there is an issue with sharing it since it is at a courser resolution than the original, and am checking on that. I also vaguely remember there being something related to the well data, but that may not be true. I am contacting Mike to double check on both of these.

The other layers I used in the model I can provide without a problem. I have placed them in a zip file on an FTP site. Please let me know if you have any questions about them.

<ftp://ftpext.usgs.gov/pub/cr/co/fort.collins/Jarnevic/>

The file is the ModelPredictors.zip.

Layers used included:

Variable	Creation step	Source	Name
Distance to FAA structure	Euclidean distance (meters) to FAA obstructions taller than 50 feet using ArcGIS Spatial Analyst tools.	Federal Aviation Administration, January 2011	SGP_vert_GTE50_120912_eucdist
Distance to highway	Euclidean distance (meters) using ArcGIS Spatial Analyst tools to highways.	ESRI ArcGIS Data and Maps, version 10, "mroads" layer from the North America Streetmap dataset including interstates, freeways, state and county highways	highways_eucdist_2012extent
Distance to all roads	Euclidean distance (meters) using ArcGIS Spatial Analyst tools to roadways.	ESRI ArcGIS Data and Maps, version 10, North America Streetmap database subset to named roads (field "DISP_NAME"; except for Kansas which is from 2010 Kansas Department of Transportation data)	streets_eucdist_2012extent

Distance to transmission lines	Euclidean distance (meters) using ArcGIS Spatial Analyst tools to any transmission lines.	Platts "North America Electric Transmission Lines GIS Layer", obtained April 2011	-
Well density	Point statistics in ArcGIS Spatial Analyst neighborhood functions, summing the number of points in a circle with a 1600m radius	Well data compiled from each state government in 2011, removing those with indication no longer active.	-
Average EVI	Average of average annual Enhanced Vegetation Index (EVI) from 2000 to 2009	MODerate resolution Imaging Spectroradiometer (MODIS) Vegetation Indices: <a href="http://ladsweb.nascom.nasa.gov/data/search.html">http://ladsweb.nascom.nasa.gov/data/search.html</a>	EVI_annualMeanValue_2010
Topographic Ruggedness Index (TRI)	Topographic Ruggedness Index calculated following Riley et al. (1999); resampled to 240m	National Elevation Dataset 1 arc-second Digital Elevation Model ( <a href="http://ned.usgs.gov/index.html">http://ned.usgs.gov/index.html</a> )	tri2012
State	Categorical value for each of the five states	National Atlas of the United States, State Boundaries of the United States: National Atlas of the United States, Reston, VA. ( <a href="http://nationalmap.gov/">http://nationalmap.gov/</a> )	FiveStates_Proj
Percent 'known used' or 'suspected used' (Appendix A)	Focal Statistics (suitable_2010, Sum) / Focal Statistics (constant, Sum) * 100, Calculated for a 5000m radius	Regional land cover map derived from the Southwest Regional Gap Land Cover Dataset in New Mexico, the National Land Cover Dataset for Colorado, Kansas and Oklahoma, and Ecological Mapping Systems of Texas.	LC_5000_210
Percent conservation reserve program (CRP) land	Focal Statistics (suit_*, Sum) / Focal Statistics (constant, Sum) * 100, Calculated for a 5000m radius	Conservation Reserve Program information summarized from 2012	-
Landscape condition	Comer, P. J. & J. Hak. 2012. Landscape Condition in the Conterminous United States.  Spatial Model Summary. NatureServe, Boulder, CO.	WGA landscape condition data created from Landfire, wells, roads, transmission lines, railroad and vertical structures. It is a measure of human impact (cropland counts as impact). Scale is 1-10,000 with higher values less impacted.	LandCond4_EOR10

The manuscript describing the methods in detail is still in review.

Cheers,  
Catherine

On Mon, Aug 17, 2015 at 8:06 AM, O'Meilie, Chris <[chris\\_omeilia@fws.gov](mailto:chris_omeilia@fws.gov)> wrote:

Morning Catherine. Thanks for the quick response. Yes, I would like the predictor layers, and any contact information for the outstanding ones would be a great help. Thanks.

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Chris O'Meilie - Fish and Wildlife Biologist  
U.S. Fish and Wildlife Service - Region 6  
Kansas Ecological Services Field Office  
2609 Anderson Avenue  
Manhattan, Kansas 66502  
Office - 785.539.3474 x104

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On Mon, Aug 17, 2015 at 9:02 AM, Jarnevich, Catherine <[jarnevichc@usgs.gov](mailto:jarnevichc@usgs.gov)> wrote:  
Hi Chris,

I want to make sure I understand what you are asking for - the predictor layers that were used in the Maxent model. Is this correct? If so, I can provide information on all of them but I believe for two of them (I need to look back to make sure) I was not supposed to share the data layers. For those I would be able to give you the contact information for the source.

Cheers,  
Catherine

On Mon, Aug 17, 2015 at 7:50 AM, O'Meilie, Chris <[chris\\_omeilia@fws.gov](mailto:chris_omeilia@fws.gov)> wrote:  
Catherine,

Jim Pitman directed me to you as the source for the subject information, specifically the input data used to derive the output provided by Mike Houts. Is this something you can share at this time?

Thanks. -Chris

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----- Forwarded message -----

From: **Jim Pitman** <[jim.pitman@wafwa.org](mailto:jim.pitman@wafwa.org)>

Date: Thu, Aug 13, 2015 at 8:25 AM

Subject: RE: Request for lesser prairie-chicken maximum entropy geospatial data and documentation

To: "O'Meilie, Chris" <[chris\\_omeilia@fws.gov](mailto:chris_omeilia@fws.gov)>, Bill Van Pelt <[bill.vanpelt@wafwa.org](mailto:bill.vanpelt@wafwa.org)>

Cc: Cal Baca <[cal.baca@wafwa.org](mailto:cal.baca@wafwa.org)>, Mike Houts <[mike.houts@wafwa.org](mailto:mike.houts@wafwa.org)>, Sean Kyle <[sean.kyle@wafwa.org](mailto:sean.kyle@wafwa.org)>, Allan Janus <[allanjanus@gmail.com](mailto:allanjanus@gmail.com)>, "Nichols, Clay" <[clay\\_nichols@fws.gov](mailto:clay_nichols@fws.gov)>

Catherine Jarnevich (USGS) in Fort Collins should everything that Houts does not. About 10 days ago she submitted a manuscript to Avian Conservation and Ecology that details the methods and results. She might be able to share that draft with you as well.

Later,

Jim Pitman, CWB

Conservation Delivery Director

Western Association of Fish & Wildlife Agencies

215 W. 6<sup>th</sup> Ave., Suite 207

Emporia, KS 66801

Phone: 620-208-6120

**From:** O'Meilie, Chris [mailto:[chris\\_omeilia@fws.gov](mailto:chris_omeilia@fws.gov)]

**Sent:** Thursday, August 13, 2015 7:56 AM

**To:** Bill Van Pelt <[bill.vanpelt@wafwa.org](mailto:bill.vanpelt@wafwa.org)>

**Cc:** Cal Baca <[cal.baca@wafwa.org](mailto:cal.baca@wafwa.org)>; Mike Houts <[mike.houts@wafwa.org](mailto:mike.houts@wafwa.org)>; Jim Pitman <[jim.pitman@wafwa.org](mailto:jim.pitman@wafwa.org)>; Sean Kyle <[sean.kyle@wafwa.org](mailto:sean.kyle@wafwa.org)>; Allan Janus <[allanjanus@gmail.com](mailto:allanjanus@gmail.com)>; Nichols, Clay <[clay\\_nichols@fws.gov](mailto:clay_nichols@fws.gov)>

**Subject:** Re: Request for lesser prairie-chicken maximum entropy geospatial data and documentation

I'm checking back in on this request. Who do I need to talk to about getting the input layers used

in the MaxEnt modeling?

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Chris O'Meilie - Fish and Wildlife Biologist

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On Thu, Jun 11, 2015 at 11:56 AM, O'Meilie, Chris <[chris\\_omeilie@fws.gov](mailto:chris_omeilie@fws.gov)> wrote:

Mike,

Are the input layers that were used to derive the prediction available too?

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Chris O'Meilie - Fish and Wildlife Biologist

U.S. Fish and Wildlife Service - Region 6

Kansas Ecological Services Field Office

2609 Anderson Avenue

Manhattan, Kansas 66502

(Temporarily Teleworking from New Mexico)

Cell - 785.313.2253

On Wed, Jun 3, 2015 at 5:44 PM, Mike Houts <[mike.houts@wafwa.org](mailto:mike.houts@wafwa.org)> wrote:

Chris,

Following up on this request for the original LPC maxent results for the SGP. I have placed a zip file on the WAFWA Sharepoint site that contains the maxent raster results as well as a shapefile that delineates the area initially identified as what could be potentially suitable habitat (maxent threshold of  $\geq 25$ ).

There is no formal write up included here, but USGS was writing a paper on this process, and last I heard it is in almost ready.

[https://westernafwa-my.sharepoint.com/personal/wafwa\\_gis\\_wafwa\\_org/\\_layouts/15/guestaccess.aspx?guestaccesstoken=rLJrGKDAwnHMnV2L%2b7YyMSkiACrXjzJccp00exq%2bClw%3d&docid=049cb8ca84899436c8ef77229c2c340d7](https://westernafwa-my.sharepoint.com/personal/wafwa_gis_wafwa_org/_layouts/15/guestaccess.aspx?guestaccesstoken=rLJrGKDAwnHMnV2L%2b7YyMSkiACrXjzJccp00exq%2bClw%3d&docid=049cb8ca84899436c8ef77229c2c340d7)

Let me know if you have any problems or questions.

Mike

Mike Houts

LPC Information Systems Director

WAFWA LPC RWP

Kansas Biological Survey

785-864-1515

**Please send all submissions for impact estimates to [wafwa.impacts@wafwa.org](mailto:wafwa.impacts@wafwa.org).**

**Please send all submissions of enrollments and field HEG assessments to [wafwa.gis@wafwa.org](mailto:wafwa.gis@wafwa.org).**

**Inquiries and other non impact submission emails can reach me at [mike.houts@wafwa.org](mailto:mike.houts@wafwa.org).**

**From:** O'Meilie, Chris [mailto:[chris\\_omeilie@fws.gov](mailto:chris_omeilie@fws.gov)]

**Sent:** Wednesday, May 20, 2015 8:49 AM  
**To:** Bill Van Pelt  
**Cc:** Jim Pitman; Sean Kyle; Mike Houts; Allan Janus; Nichols, Clay  
**Subject:** Re: Request for lesser prairie-chicken maximum entropy geospatial data and documentation

Bill,

Following up on this request, as I haven't seen anything to date. Thanks. -Chris

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"Forecasts create understanding, and as my friend Richard Saul Wurman says, '*Understanding should precede action.*'" - Jack Dangermond

Fill in the blank with your topic of choice:

*There is no silver bullet for understanding \_\_\_\_\_ fully since research is an accretive process.*

On Wed, Apr 22, 2015 at 1:01 AM, Bill Van Pelt <[bill.vanpelt@wafwa.org](mailto:bill.vanpelt@wafwa.org)> wrote:

Jim/Mike,

would you all be able to assist with this request. If I remember correctly, the maxent contract went through Kansas.

Sent from Windows Mail

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**From:** [Chris O'Meilie](#)  
**Sent:** Monday, April 20, 2015 8:24 AM  
**To:** [Bill Van Pelt](#), [Jim Pitman](#), [Sean Kyle](#), [Mike Houts](#), [Allan Janus](#)  
**Cc:** [Nichols, Clay](#)

Bill,

I would like to request a copy of the subject data, which I believe exists for a range-wide extent of the LPC. Thanks. -Chris

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